

Attorney Docket No.: LUKP:123US
U.S. Patent Application No. 10/711,823
Reply to Office Action of January 30, 2007
Request for Continued Examination dated: April 27, 2007

Remarks

The Rejection of Claims 1 and 3-9 Under 35 U.S.C. § 112

The Examiner has rejected Claims 1 and 3-9 under 35 U.S.C. § 112, first paragraph as failing to comply with the enablement requirement. Specifically, the Examiner states that how the shift finger and disengaging elements operate the gearshift rails is critical or essential to the practice of the invention, which description the Examiner asserted is not disclosed in the specification, the claims, or the drawings. In addition, the Examiner stated that how the shift finger shifts, how the disengaging members disengage, and with what the shift finger and disengaging member communicate with on the shift rails to move them are not disclosed. Applicants respectfully traverse these assertions and request reconsideration and withdrawal of the rejections under 35 U.S.C. § 112, first paragraph, based upon the following reasons.

As set forth in the Amendment and Request for Reconsideration dated November 29, 2006, Applicants respectfully submit that United States Patent No. 7,093,511 (*Norum et al.*) describes current state of the art with respect to transmission shift controls. In particular, Figures 22, 23a and 23b and Column 26, line 42 through Column 29, line 16 describe such transmission shift controls, while Column 27, lines 3-64 generally describe how a shift finger and disengaging members operate gearshift rails, how shift fingers shift, and what the shift finger and disengaging member communicate with on the shift rails to move them. Even more specifically, Figure 2 and Column 15, lines 6-43 describe in detail how a shift finger and disengaging members operate gearshift rails, how shift fingers shift, and what the shift finger and disengaging member communicate with on the shift rails to move them. For example, *Norum et al.* describe that “[a] group of transmission ratio steps is actuated through the final output elements **101** and **104**, such as coupling sleeves, the other group of transmission ratio steps is actuated through the final output elements **102** and **103**. The final actuating mechanism is equipped with main and secondary actuation elements for the purpose of its connection with the final output mechanisms of both groups. **A first main actuating element 111 and an additional main actuating**

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element, which in this view is not visible, are suitable for engaging transmission ratio steps; secondary actuation elements 116, 113 ensure that all other transmission ratio steps of the same group, respectively, are disengaged.” (*Norum et al.*, Col. 15, lines 12-24) (emphasis added). In view of the foregoing, Applicants respectfully assert that although the elements are referred to as main and secondary actuating elements, one of ordinary skill in the art recognizes that the main actuation elements are engaging elements, and secondary actuation elements are disengaging elements. Thus, *Norum et al.* teach engaging element **111** and disengaging elements **113** and **116**.

Norum et al. further describe that “[t]he shift forks **105, 106, 107, 108** are arranged on shaft **109** in an axially displaceable manner, their shift fork mouths are designed so as to connect with a main actuating element, respectively, such as shift fingers **111**, or a secondary actuating element, such as double cams **113, 116**. For this, first partial areas **114** are provided for connection with a shift finger **111** and second partial areas **114** for connection with a double cam **113**. In order to engage a transmission ratio step, for example, the shift finger **111** interacts with the end area **110** of the appropriate shift fork **105** or **106** by displacing the control shaft **112** in axial direction. At the same time, the double cam **113** interacts with the appropriate shift fork **107** or **108**, which belongs to the same group of transmission ratio steps. A rotation of the control shaft **112** swivels the shift finger **111**, thus displacing the shift fork **105** or **106** on the shaft **109** and therefore also the appropriate coupling sleeve **101** or **102** and engaging the appropriate transmission ratio step. Simultaneously, the rotation of the double cam **113** causes the affected transmission ratio step to be disengaged, if one was engaged.” (*Norum et al.*, Col. 15, lines 24-43). In view of the foregoing, Applicants respectfully assert that *Norum et al.* describe how a shift finger and disengaging members operate gearshift rails, how shift fingers shift, and what the shift finger and disengaging member communicate with on the shift rails to move them, as is understood by one of ordinary skill in the art.

“A patent need not teach, **and preferably omits**, what is well known in the art.” *In re Buchner*, 929 F.2d 660, 661, 18 U.S.P.Q.2d 1331, 1332 (Fed. Cir. 1991) (emphasis added)

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(citations omitted); M.P.E.P. § 2164.01. Applicants courteously submit that the patent to *Norum et al.* is part of the general knowledge in the relevant field of art, in particular regarding how a shift finger and disengaging members operate gearshift rails, how shift fingers shift, what the shift finger and disengaging member communicate with on the shift rails to move them. Applicants' disclosure need not read as a treatise on subject matter which is already in the public domain and within the purview of one skilled in the art. *Norum et al.* substantiate that the alleged deficient disclosure is already in the public domain, and consequently, Applicants' disclosure need not dwell on such details. Hence, reconsideration and withdrawal of this rejection is appropriate and courteously requested.

Rejection of Claims 1 and 3-9 Under § 112

The Examiner has rejected Claims 1 and 3-9 under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. More specifically, the Examiner asserted that Claim 1 recites the limitation "said shift fingers," in line 9 of the amended claim, and that there is insufficient antecedent basis for this limitation in the claim. Applicants respectfully traverse this rejection and request reconsideration based on the following reasons.

Claim 1 has been amended to recite "said shift finger". Applicants respectfully submit that amended Claim 1 provides proper antecedent basis for the limitation "said shift finger" in line six (6) of amended Claim 1, wherein the following is recited: "said single selector shaft comprises a shift finger". Hence, amended Claim 1 is in condition for allowance, which action is courteously requested. Additionally, Claims 3-9 are also in condition for allowance due to their dependency from amended Claim 1, and such allowance is courteously requested.

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Rejection of Claims 1 and 3-9 Under 35 U.S.C. § 103

The Examiner has rejected Claims 1 and 3-9 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,911,031 (*Yoshimura et al.*), in view of U.S. Patent No. 6,082,215 (*Jerwick*). Applicants respectfully traverse this rejection of Claims 1 and 3-9, and request reconsideration based on the following reasons.

As acknowledged by the Examiner, Applicants courteously submit that the device taught by *Yoshimura et al.* does not include a single selector shaft arranged in a gearbox actuator housing or a bearing arrangement operatively arranged to support gearshift rails, as recited in Applicants' Claim 1.

Similarly, Applicants courteously submit that *Jerwick* fails to teach a device having a single selector shaft arranged in a gearbox actuator housing and a bearing arrangement operatively arranged to support gearshift rails, as recited in Applicants' Claim 1. *Jerwick* discloses a top cover assembly for a manual transmission, however is silent regarding the missing elements.

Applicants respectfully disagree with the Examiner's interpretation of *Jerwick*. Applicants courteously submit that shift lever 34 of the *Jerwick* device is different than selector shaft 2 of the instant application. Shift lever 34 is the type of shift lever, commonly known to those of ordinary skill in the art, which a driver of a vehicle can either directly or indirectly use to choose the gears of a manual transmission. As described in *Jerwick*, "[t]he shift lever 34 is operatively connected to the shift fork 36 such that when the shift lever 34 is moved through the shift pattern P the shift forks 36 are moved forward and rearward causing the clutch collars 38 to move forward or rearward." (*Jerwick*, Col. 3, lines 40-44). Furthermore, *Jerwick*'s shift lever 34 is arranged to pivot about ball 70 "such that when the first portion 66 is moved by the vehicle operator in one direction, the second portion 68 moves in the opposing direction." (*Jerwick*, Col. 3, lines 62-65). Contrarily, Applicants' selector shaft 2 is operatively arranged to rotate about its longitudinal axis when driven by brushless motor 5 via planetary stage 6, toothed segment 7 and

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toothed wheel **16**. As such, Applicants respectfully assert that one of ordinary skill in the art would not consider *Jerwick*'s shift lever **34** to be the same as Applicants' selector shaft **2**.

Additionally, Applicants courteously submit that *Jerwick*'s shift forks **36** are different than Applicants' drive unit. More specifically, *Jerwick* discloses that "shift forks **36** are moved forward and rearward causing the clutch collars **38** to move forward and rearward." (*Jerwick*, Col. 3, lines 42-44). Contrarily, Applicants drive unit is described in the specification as a brushless motor **5** arranged to drive the above described selector shaft **2**. (Instant Application, Para [0012]). Applicants respectfully assert that a shift fork and a brushless motor are entirely different structural features.

In view of the above described arrangement of the *Jerwick* device, it is apparent that the shift lever drives the shift forks. Thus, according to the Examiner's interpretation of *Jerwick*, **the selector shaft drives the drive unit**. Contrarily, Applicants Claim 1 recites an arrangement which is in fact the opposite of this interpretation of the *Jerwick* arrangement in that **the selector shaft is driven by the drive unit**.

Moreover, Applicants courteously submit that although the *Jerwick* device includes integral front and rear support members **80** and **82**, respectively, the bearing arrangement recited in Applicants Claim 1 is different. *Jerwick*'s support members **80** and **82** include first and second cylindrical bores **90** and **92**, respectively. A cylindrical shift rail **96** is supported in first and second bores **90** and **92**, respectively. (*Jerwick*, Col. 3, line 65 through Col. 4, line 9). Thus, the shift rail must be inserted through bores **90** and **92** prior to installing top cover **50** within the transmission. Contrarily, Applicants' bearing arrangement, in some embodiments include jibs **12**, **13**, **14** and **15**, while in other embodiments include jibs **32** and **33**, and such bearing arrangements "do not represent any impairments because they are simply inserted through the opening...of the gear housing...in order between them to receive gearshift rails." (Instant application, Para. [0016]). In other words, as the gearbox actuator of the instant application is inserted within the gearbox, the bearing arrangement surrounds the gearshift rails thereby providing support for the rails. Hence, the support members of *Jerwick*, which require inserting

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the shift rail within the cylindrical bores prior to assembling the unit within a transmission, are quite different from the instant application bearing arrangement which is inserted within a gearbox thereby surrounding the gearshift rails with the bearing arrangement.

In view of the foregoing, Applicants respectfully assert that the device taught in *Jerwick* does not include all the elements of Applicants' Claim 1, as there is no teaching of a single selector shaft arranged in a gearbox actuator housing or a bearing arrangement operatively arranged to support gearshift rails contained in the reference. As such, *Jerwick* fails to cure the defects of *Yoshimura et al.*, i.e., *Jerwick* does not teach a device having a single selector shaft arranged in a gearbox actuator housing or a bearing arrangement operatively arranged to support gearshift rails, as recited in Applicants' Claim 1.

In order to establish a *prima facie* case of obviousness, the references alone or in combination must teach or suggest all the limitations of Applicants' claimed invention. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). Thus, as independent Claim 1 contains elements that are not disclosed in the cited references, i.e., a device having a single selector shaft arranged in a gearbox actuator housing or a bearing arrangement operatively arranged to support gearshift rails, it generally follows that Claim 1 is patentable over *Yoshimura et al.* in view of *Jerwick*. Dependent Claims 3-9 contain all of the limitations of independent Claim 1, due to their dependency therefrom. Therefore, since Claim 1 is patentable over *Yoshimura et al.* in view of *Jerwick*, due to the missing elements, it necessarily follows that Claims 3-9 are also patentable over *Yoshimura et al.* in view of *Jerwick*, due to their dependency from Claim 1.

Accordingly, withdrawal of the rejections of Claims 1 and 3-9 under 35 U.S.C. § 103(a) is appropriate and respectfully requested.

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Conclusion

Applicants respectfully submit that the application is now in condition for allowance, which action is courteously requested. The Examiner is invited and encouraged to contact the undersigned attorney of record if such contact will facilitate an efficient examination and allowance of the application.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'R. C. Atkinson', with a long horizontal flourish extending to the right.

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